

read out from the information recording layers in a predetermined area of the memory, in dependence upon a frequency of the accesses for reading out information. Thus, according to the optical drive apparatus and method, a predetermined memory area is determined in dependence upon or in relation to the frequency of accesses for reading out information made to the respective layers on the optical disk, so that it is possible to achieve a “pre-reading function” as described at page 14, lines 7 - 27 of the specification, noting that as described at page 14, lines 1 - 6, it is possible to use the buffer effectively through supervising the access frequencies for each layer as pre-reading data that is accessed at high frequency within the function of pre-reading the information recording disk having a plural number of layers thereon.

Turning to independent claim 1, which is directed to the optical disk drive apparatus, such claim recites the features of “a memory configured to memorize the information read out from said information recording layers; and a processor configured to control said memory”, wherein “said processor supervises accesses for reading out information ... and memorizes information ... into a predetermined area of said memory, in dependence upon frequency of the accesses for reading out information obtained through the supervision thereof” (emphasis added).

Independent Claim 4, which is directed to the method, recites essentially the same subject matter, wherein the memorization of the information read out is made into a predetermined area of the memory in dependence upon the frequency of the accesses for reading out information. Thus, the present invention provides for a determination or control of the areas within a buffer memory in which read out information is memorized or stored, depending upon the frequency of the accesses.

Applicants submit that such features, as recited in independent claims 1 and 4, and the dependent claims, are not disclosed or taught in the cited art.

Turning to Naruse, assuming arguendo that information read out is stored in a buffer memory, as recognized by the Examiner, “Naruse fails to teach the transfer request made in dependence upon a frequency of the accesses for reading out information obtained through the supervision thereof”. (emphasis added). Thus, the Examiner acknowledges that Naruse fails to disclose or teach the claimed subject matter of independent claims 1 and 4 and the dependent claims.

The Examiner, recognizing the deficiencies of Naruse, cites Uehigashi, contending “Uehigashi teaches the transfer request made in dependence upon a frequency of the accesses for reading out information obtained through the supervision thereof (Abstract reading of arbitrary data to the leading address having the highest access frequency, and is made to stand by based on the leading address)” (emphasis added). Applicants submit that the Examiner has correctly characterized the disclosure of Uehigashi, but has mischaracterized the disclosure in relation to the claimed invention. That is, Uehigashi is directed to the control of the position of the optical pickup to a position at “a start address with the highest access frequency”, as described in paragraphs [0009] and [0010] of the machine translation thereof. More particularly, as clearly set forth in paragraph [0008], the invention aims at compaction of the seek operation time amount of the optical pickup at the time of reading actuation.” As indicated in paragraph [0009] having the heading [Means for Solving the Problem], “It has the optical pickup migration control means which makes it move before hand and makes the optical pickup which ended reading of the data of arbitration stand by to a start address with the highest access frequency.” (emphasis added). Thus, while Uehigashi discloses the positioning of the optical

pickup for reading out information to a start address with the highest access frequency, Uehigashi provides no disclosure or teaching regarding the storing or memorizes read out information in a predetermined area of a memory, based upon the frequency of the accesses for reading out information. Accordingly, any combination of Naruse and Uehigashi would only serve for controlling the positioning of the optical pickup of Naruse for reading out information from the optical disk, and would not provide any disclosure or teaching of the features of independent claims 1 and 4 and the dependent claims of memorizing information into a predetermined area of the memory in dependence upon frequency of the accesses for reading out information. Therefore, applicants submit that claims 1 and 4 and the dependent claims recite features not disclosed or taught by Naruse and/or Uehigashi, taken alone, or in any combination thereof. Accordingly, applicants submit that independent claims 1 and 4 and the dependent claims patentably distinguish over this proposed combination of references in the sense of 35 USC 103 and all claims should be considered allowable thereover.

As to the dependent claims, applicants submit that such claims recite further features, which when considered in conjunction with the parent claims, further patentably distinguish over the cited art, such that the dependent claims and should be considered allowable thereover.


For the foregoing reasons, applicants submit that all claims present in this application patentably distinguish over the cited art and all claims should be considered allowable at this time. Accordingly, issuance of an action of favorable nature is courteously solicited.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing

of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 520.43638X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

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